

OPEN MEETING AGENDA ITEM

From: *Stacey Champion and Abhay Padgaonkar*
Date: September 22, 2020
Docket: APS Rate Review (E-01345A-19-0003); APS Rate Case (E-01345A-19-0236)
Re: **Six Fatal flaws in the Energytools Report confirm inadequate customer compensation by APS**

Dear Commissioners:

Here is our detailed rebuttal of the Energytools Report.¹

Six fatal flaws in the Energytools Report confirm inadequate customer compensation by APS

More than 50% of APS customers have been on the wrong plan and have been hammered to use the tool to select their most economical plan since 2017. With that in mind, we had serious doubts that the perennially problematic Rate Comparison Tool — with all manner of customer complaints for years — would have harmed only about 1% of APS's customers, as APS has claimed.

Energytools has confessed that it is "impossible now to unequivocally confirm" its own findings because there is no record of the results. Moreover, the six fatal flaws in the Energytools Report confirm that the customer damages have been grossly undercounted. The notion that APS has adequately compensated customers is false. Any one of the six major deficiencies would have been enough to disqualify the Energytools Report. Collectively, the six fatal flaws — mainly revolving around what Energytools failed to do — deal a mortal blow to the Energytools Report's credibility. It should prevent anyone from giving any credence to the tenuous finding by Staff's consultant that "it would *appear* that the Company has adequately compensated customers." The Commission and the Attorney General must disregard the findings in the Energytools Report.

Fatal Flaw #1: ACC Staff made false statements in the RFP, giving cover to Energytools to ignore the most critical period, namely August 2017-August 2018. Energytools twisted itself into knots to parrot the APS narrative by ignoring evidence, making contradictory statements, and by misstating the Overland report.

Fatal Flaw #2: APS admitted to Comm. Kennedy that "overstated projections" by the tool in 2017 occurred because of treating an off-peak hour as on-peak. And yet, Energytools simply wrote off the Aug'17-Aug'18 period while focusing *on exactly the same problem* (i.e., treating an off-peak hour as on-peak) — but only starting in Feb. 2019.

Fatal Flaw #3: Public comments and complaints to APS and the ACC have provided proof positive of APS's knowledge of the data shift error and flawed rate comparison tool between July-September 2019 — despite its self-professed claim of not being aware until November 14, 2019. Energytools failed to investigate APS's false timeline of its own knowledge or any problems other than the data shift error.

Fatal Flaw #4: Energytools acknowledged that customers calling the APS call center could be switched to the wrong plan because CSRs used the *same* faulty rate comparison tool. And yet, by restricting its analysis to the "Initial Tool log" in 2019, Energytools ignored all the incorrect plan changes made by APS CSRs since August 2017.

Fatal Flaw #5: Energytools failed to quantify the full impact of customer damages by wrongly assuming: a) that kWh adjustments didn't matter and b) that only plans with demand component were affected.

Fatal Flaw #6: Energytools failed to analyze the negative impact to non-residential customers by wrongly assuming that only residential customers were affected by the data-shift and other errors.

¹ Energytools Report at: <http://docket.images.azcc.gov/E000008482.pdf>

Worrisome problems with ACC Staff, Energytools, APS, and RUCO don't end there

- **ACC Staff:** ACC Staff violated Arizona's Procurement Code and issued false statements. ACC Staff's complicity in skewing the analysis — and its handpicked vendor's seeming compliance in doing ACC Staff's and APS's bidding — are highly troubling, but are hardly surprising to us. We have all witnessed firsthand ACC Staff's whitewashing and coverup of the Overland Report.² So, this time ACC Staff appears to have decided to put its thumb on the scales even *before* the vendor was selected.
- **Energytools:** Energytools didn't contact us during its so-called investigation — the very people who blew the whistle on the faulty rate comparison tool, not ACC Staff and certainly not APS. And Energytools failed the most basic requirement of software evaluation: It's impossible to make sense of the most basic facts related to the Rate Comparison Tool's progression or timeline or GridX's and Brattle Group's detailed involvement since August 2017 from the Energytools Report, despite five months of work.
- **APS:** Analysis of logging information is often the only way of finding out what is wrong with a system and what actually took place. And yet, APS failed to produce the electronic records that were essential for this investigation and "examination of the books and records of Arizona Public Service."
- **RUCO:** The Residential Utility Consumer Office (RUCO) is 100% funded by residential ratepayers through an assessment made by the Commission. RUCO claims its site to be a helpful source of information to protect the interests of residential ratepayers. But RUCO never posted *any* information about the malfunctioning rate comparison tool or alerted the ratepayers about the Attorney General's consumer fraud investigation of APS. Consumer watchdogs like RUCO have been sleeping dogs at best and lapdogs at worst. Despite all that has transpired at the ACC, RUCO's last News Release was 15 months ago.

Recommendations to the Commission

- With the current major deficiencies, the Commission must reject the findings in the Energytools Report as highly unreliable. The Commission must also order Energytools to rectify promptly all the major deficiencies in its report as specifically identified in this rebuttal and summarized below:
 1. **Wrong Timeline:** Complete analysis of overstated projections and incorrect plan recommendations by the rate comparison tool starting in August 2017 due to off-peak usage being treated as on-peak.
 2. **Ignored Problems:** Beyond just the data shift error, complete analysis of other root causes (e.g., discrepancy between interval vs. billed data) leading to inaccurate accounting of on-peak vs. off-peak usage, overstated projections, incorrect plan recommendations, and possibly even inaccurate billing.
 3. **CSR Changes:** Complete analysis of incorrect plan recommendations and suboptimal plan changes performed by APS Customer Service Representatives since August 2017;
 4. **Wrong Assumptions:** Complete analysis without the flawed assumptions about kWh adjustments, plans with demand component, and non-residential, business customers;
 5. **Missing Tool Progression:** Create a detailed timeline since 2017 for the various Rate Comparison Tools by documenting every release and version, when it was released in production, what bug fixes and/or upgrades it contained, who did what testing, who authorized the software release, etc.
- **Referral:** The Commission must refer ACC Staff to the Attorney General for enforcing violation of the Procurement Code. The Commission must also discipline ACC Staff for making provably false statements in the RFP and thereby abandoning the public interest, which should have been paramount.
- **Subpoena:** The Commission must subpoena APS for detailed web logs and sanction APS if it fails to produce them. APS must also be ordered to compensate all the harmed customers in full dating back to 2017, after Energytools rectifies all the major deficiencies outlined above.

² "The Overland Audit Report Coverup" at: <https://docket.images.azcc.gov/E000003490.pdf>

FATAL FLAW #1: ENERGYTOOLS FAILED TO INVESTIGATE THE MOST CRITICAL PERIOD AND PARROTED APS'S NARRATIVE BY RELYING ON ACC STAFF'S FALSE STATEMENTS AND BY MISSTATING OVERLAND EVIDENCE

ACC Staff made at least two false statements to shift the starting point for a proper review, analysis, and investigation of the rate comparison tool from August 2017 to August 2018. This was done despite the fact that APS had contemporaneously admitted to "much higher increases" due to a "software glitch" back in August 2017 itself, as the complaints below demonstrate. Totally absent from the Energytools Report is any proof of what any prior version of the tool did or didn't do *before* August 2018, as Steve Neil had insisted should be done in his public comments filed the day after the December 11, 2019 Open Meeting.³

ACC Staff's motive behind the false statements and cover-up, therefore, appears to be to narrow the scope of the investigation and to shield APS from further damage from the Commission and the Attorney General who launched a consumer fraud investigation into APS — and limit more damage than what APS had already copped to after it was forced to own the data shift error starting in February 2019.

The **August 2017-August 2018** period written off by ACC Staff and Energytools was extremely critical for customers struggling to select the best rate for themselves:

- This was the time when customers, who were automatically moved to transitional rates after the rate increase, were deciding whether to stay or switch to one of the "new" rates. (Mr. Padgaonkar switched right away on September 4, 2017, but Ms. Champion and Steve Neil didn't.)
- This was the time when APS mailed out hundreds of thousands of "Best Rate" letters. (We all got them.)
- This was also the period when APS started forcing customers who did not select a "new" rate on their own onto the "most-like" rate and customers were deciding whether to default to the most-like rate or to switch to a different rate. (Mr. Padgaonkar had already switched, Mr. Neil recalls relying on the online rate comparison tool likely before March 2018 to switch to a new rate on Apr 12, 2018, and Ms. Champion was moved by APS to her most-like rate.)

Here are ACC Staff's provably false statements in the Background section of the RFP regarding the *timing* of the Tool's launch and *when* questions began surfacing about its accuracy.

01345A-16-0036 and E-01345A-16-0123. The Tool was launched for public use in 2018.

Early in 2019, questions began to surface regarding the accuracy of the Tool's results.

However, Commissioner Kennedy's Letter⁴ docketed on December 13, 2019 — well before the RFP was even prepared — had shown in plain sight that both these statements by ACC Staff were false. ACC Staff was acutely aware of the discrepancy as can be seen from Laurie Woodall's email sent days before the RFP was finalized (shown in the procurement violation section) referencing Comm. Kennedy's December 13, 2019 letter.

Also, the 2017 complaints below (Complaint No. 2017 – 144624 and 2017 – 147253) and many others about using the online tool and questioning the tool's accuracy, as documented in Commissioner Kennedy's Letter, were filed within days or a few months after the rate increase went into effect on August 19, 2017:

³ Comments by Steve Neil at: <https://docket.images.azcc.gov/E000004084.pdf#page=2>

⁴ "Comm. Kennedy's Letter in the Rate Review docket on December 13, 2019" at: <https://docket.images.azcc.gov/E000004091.pdf>,

appeared to have substantial increases over and above the reported increases of \$6.00 month. The APS website had a comparison tool where you could compare your current rates for the past 11 months with each of the new plans. However, I found out today from a representative at APS who contacted me that the tool comparison box was inaccurate and has been temporarily removed from their site. Apparently, it was putting out much higher increases due to a software glitch. It will be fixed and back online next week. This is what prompted me to write the email in the first place. So, the increases I talked about in my email letter to the reporter are not accurate. I also got clarification that the \$6.00 a month increase is an average figure for

Complaint No. 2017 – 144624, Dated August 24, 2017 (Rate Increase Effective Date: August 19, 2017)

Complaint from Customer B to ACC on December 4, 2017: "I was using their rate plan comparison tool on the APS website too [sic] compare my current plan to the new rate plans that they are encouraging people to switch to. Their tool made it look like some of the new plans would result in costs close to the same as my current plan, but when looking closer they are falsely making them look better than they are. On several months I noticed that it is reporting that my current plan (Combined Advantage 7pm-noon) cost is much higher than [sic] it really is." ... "If people switch plans using this incorrect information, they will not be allowed to switch back because they are on one of the old plans and will be stuck with the newer plans that are much higher."

Complaint No. 2017 – 147253, Dated December 4, 2017 as captured in Comm. Kennedy's Letter

* 12/08/2017 - I spoke with [redacted] to discuss his concerns regarding the rate comparison tool on the APS website. He advised me that it was not a good time and would contact me on Monday, 12/11/2017. I will send an update once [redacted] has contacted me.

In response to your questions:

Is there a discrepancy in customer's historical charges versus what rate comparison tool reports?

No, the rate comparison tool on the APS website reflects what the customer's energy charges would be based on the current rates.

What is length of time you need to be on plan prior to switching to another?

Typically, customers are allowed to change their rate once every 12 months. However, due to the new rates, APS is allowing customers to change their rate twice in the first 12 month period.

Please let me know if you have any questions.

Thanks,
Jenna Nelson
APS Consumer Advocate Rotation
400 North 5th Street, Phoenix, AZ 85004-3902, M.S. 9774 Tel (602) 250-2280 jenna.nelson@aps.com aps.com

Complaint No. 2017 – 147253; APS correspondence with ACC dated December 8, 2017

Further, as can be seen above, in responding to Complaint No. 2017 – 147253, APS consumer advocate Jenna Nelson on **December 8, 2017** specifically mentioned "**the rate comparison tool on the APS website**" twice. And yet, Energytools has bizarrely claimed that "The first phase took place during September 2017 to February 2018 and was intended to prepare the model for use as an **internal** Company tool for use by Company CSRs and to develop rate recommendations in the initial customer education letters...". In short, the external public had no idea about or access to the tool in 2017 — a clearly wrong finding.

And even if true, wouldn't Company CSRs and the "Best Rate" letters that APS mailed from November 2017 through March 2018⁵ when guided by a faulty rate comparison tool recommend wrong plans and cause enormous customer harm? The Energytools Report fails to provide the answer.

For looking the other way so as to minimize further damage to APS, Energytools provides another namby-pamby explanation without any supporting evidence: That the tool was launched on August 12, 2018 to all customers and before that, "APS had a rate tool that was only able to compare two selected rate classes." Again, even if true, a tool comparing two rates is still a rate comparison tool, isn't it? And, more importantly, wouldn't a faulty rate comparison tool comparing two rates recommend wrong plans and cause tremendous customer harm? The Energytools Report has neither the answer nor the quantification of the damages.

It is undeniable that customers were using the rate comparison tool on the APS website in **2017** to compare

⁵ "APS response to Comm. Dunn" at: <https://docket.images.azcc.gov/0000193159.pdf#page=4>

their current plan to the new rate plans and 2) customers were not only surfacing questions related to its accuracy but were filing formal complaints to the Commission stating "cost that is much higher" or the "increases ... are not accurate", accusing APS of "falsely making them look better than they are", and expressing concern about switching plans using this "incorrect information" to more expensive plans.

In one place, Energytools reported about the availability of the rate comparison tool, as follows, declaring that the GridX rate comparison tool was, in fact, available on **August 19, 2017**, the effective date of the rate increase.

When the Company's Residential Rate redesign, authorized in Decision No. 76295, was implemented on **August 19, 2017**, the primary calculation engine for comparing customer bills under each customer's eligible rate options was the **GridX rate comparison tool**. As indicated by the Company in response to

The RFP mentioned the word "independent" 12 times. But elsewhere, Energytools — ACC Staff's handpicked vendor after committing procurement protocol violations⁶ — failed to question ACC Staff's false statements. And despite acknowledging Commissioner Kennedy's letter, Energytools ignored the evidence in that same letter about the publicly-available rate comparison tool on the APS website and documented complaints in 2017.

Instead, Energytools simply parroted APS's narrative and regurgitated ACC Staff's position, raising serious questions about its independence and integrity. Energytools provided shockingly contradictory statements and declarations, including that the tool was launched for the first time for public use in **August of 2018**.

Company in the wake of its Residential Rate Redesign in those dockets. The "Initial Tool," also referred to as the "GridX Tool" in this report, was launched for public use in **August of 2018**. **Early in 2019** questions began to surface regarding the accuracy of the Initial Tool's results, and whether the Initial Tool's conclusions regarding the optimal rate plan for the customer were correct. Numerous ratepayers

Energytools also repeated the lie that questions began to surface in "**early in 2019**" when there is more than ample evidence of official complaints being filed with the Commission beginning in 2017 and continuing through 2019. Did ACC Staff ever alert the Commissioners about these complaints or try to get to the bottom of why they were occurring? We don't see any evidence that that *ever* happened.

As if that weren't enough, Energytools went on to proclaim, without *any* investigation and contrary to documented evidence, that "Energytools *believes* that after this time (and prior to February 2019), the information posted on the APS website with respect to rate plan recommendations was correct." Energytools was retained to investigate and present evidence — not to share what it believes.

To justify its flawed belief, Energytools also completely misstated evidence in the Overland Report to claim that no issues had surfaced as of the date of the Overland Report (June 4, 2019), while completely ignoring the following:

- Overland was retained to "evaluate the effectiveness of the APS Customer Education and Outreach Program ("CEOP"), and to evaluate the possibility that APS may be over earning" — **NOT** for a comprehensive evaluation or verification of the Rate Comparison Tool.

⁶ Arizona Attorney General Procurement Handbook at: https://www.azag.gov/sites/default/files/docs/agency-handbook/2018/agency_handbook_chapter_5.pdf

- Overland had reported that "GridX services directly supporting the CEOP effort and **rate tools were provided from 2017** through May 2019."
- Most importantly, APS had actively blocked Overland from getting direct access to test the tool. "Overland was **unable to gain direct access** to test the tool" and had to rely on "**screenshots sent in response to our access data request.**" Based on this extremely limited information, Overland reported that the tool "*appears* to have been generally effective, albeit not without some limitations."

Further, APS had acknowledged by its own admission during the Champion Complaint in 2018, that the Rate Comparison Tool was **not** handling the holidays and some of the adjustors like PSA properly as per below. Mr. Padgaonkar had filed this evidence⁷ also on December 20, 2019 comprising of APS responses to the Champion Complaint data requests in the E-01345A-19-0003 docket as follows:

f) Exhibit A was completed using an early version of the Rate Comparison tool, which did not include all holidays.

Exhibit B compares the actual charges on the bills from September 2017 through January 2018 to the corresponding bill from one year prior and shows the percentage difference. No calculations are made other than the percentage increases.

Hearing Exhibit C-8 in Docket No. E-01345A-18-0002

j) Exhibits A and C both use hourly data in their calculations. However, Exhibit C includes additional calculations to accommodate missing intervals and proration for partial usage months. Exhibit C also reflects updated holidays and PSA Revision 22. Exhibit A does not include all holidays and uses PSA Revision 21. The purpose of these exhibits is to provide a best rate

Hearing Exhibit C-8 in Docket No. E-01345A-18-0002

And yet, Energytools blindly endorsed APS's "we-had-no-clue-until-November-2019" position and the **August 2018** launch of the tool by solely relying on APS's response — completely contrary to plentiful evidence of the tool's accuracy problems in **2017** as documented in Comm. Kennedy's December 13, 2019 letter. By latching on to ACC Staff's false statements and parroting APS's narrative, Energytools has failed its responsibility of independent "verification of APS's reported facts."

FATAL FLAW #2: ENERGYTOOLS TREATED EXACTLY THE SAME PROBLEM (OFF-PEAK HOUR TREATED AS ON-PEAK) COMPLETELY DIFFERENTLY BY IGNORING IT IN 2017-2018 BUT SOMEHOW ACCEPTING IT IN 2019

Energytools reported that "The Company has acknowledged that all hourly data flowing to GridX was shifted out by one hour (the data field indicated for 3pm data was actually 2pm data, etc.), and these were used by GridX to develop the TOU billing determinants for the initial tool."

Energytools acknowledged and accepted that "on-peak hours were considered to be 2:00pm to 7:00pm, rather than 3:00pm to 8:00pm, significantly affecting estimates for those residential customers who were considering and selecting a time-of-use rate plan or a demand rate plan using the tool."

In short, Energytools accepted the problem related to the hour shift in February 2019 — namely, the treatment of an off-peak hour in historical usage as on-peak, the result of which was the rate comparison

⁷ "APS CONCEDES MUCH BIGGER PROBLEMS DATING BACK TO THE TOOL'S INCEPTION" by Abhay Padgaonkar at: <https://docket.images.azcc.gov/E000004185.pdf>

tool "started recommending the MEP incorrectly," according to Energytools. However, exactly the same problem and the consequence had occurred in 2017-2018, albeit due to a different reason. That problem had *also* led to the treatment of an off-peak hour in historical usage as on-peak, and it had *also* resulted in the rate comparison tool recommending the MEP incorrectly.

In its Response to Commissioner Kennedy's Letter,⁸ APS admitted the following: "This resulted in **overstated** behavior in response to the change in on-peak hours. This resulted in **overstated projections** that alarmed some customers." (emphasis added). APS also provided Complaint 2017 – 144731, filed with the ACC on August 30, 2017. The complainant's actual on-peak demand in their August monthly bill was **4.1 kW**, but the rate comparison tool used the demand during the **off-peak hour**, which was **12.6 kW**, and made inaccurate projections based on it. In short, the rate comparison tool treated an off-peak hour in historical usage as on-peak — because of which his increase was projected to be \$425-\$460. The customer believed that high increase was inaccurate and filed the ACC complaint. To overcome the deficiency in the rate comparison tool, APS manually "had another rate comparison performed utilizing his peak demand of 4.1 kW" based on which the "minimal increase" was only \$15.

So, exactly the same problem (off-peak hour treated as on-peak) was providing incorrect information about the bill increases and also making incorrect MEP recommendations. As the customer in the above complaint pointed out, he was very conscience about his usage and stated that he is a very low on- peak usage. Informed customers like the complainant, including Ms. Champion, and Mr. Padgaonkar both of whom were also voluntarily on a TOU plan at the time of the rate increase, were very aware of the on-peak vs. off-peak window and the significant rate differential during the on-peak window. Mr. Padgaonkar had explained this issue in detail to the Commission in his filing⁹ and in his public comment¹⁰ starting at the **4:02:10** mark.

The Result? → Wrong Plan Advice

- The Peak Hour Shift Error resulted in APS counting the Monday-Friday off-peak, **high usage** (for both kWh and kW) for the entire month as if it were on-peak:

BILLED PEAK					
2-3 PM	3-4 PM	4-5 PM	5-6 PM	6-7 PM	7-8 PM
12	1	1	1	1	1

- For example, instead of 5 kWh usage and 1 kW demand for 3-8 PM, the tool would have erroneously used 14 kWh usage and 10 kW demand!
- Although this error would have had greater impact on aggressive on-peak savers, ALL customers on TOU-E, R-2, and R-3 plans would have been impacted by using more power during the 2-3 PM off-peak hour and less during the 3-8 PM on-peak hours.

- More expensive new plan recommendations
- Incorrect current/future annual cost estimates
- Erroneous projections of future savings/costs

SAME RESULT → Wrong Plan Advice

- This baffling, across-the-board, "nobody will change anything" assumption led to **exactly the same result** as the Peak Hour Shift Error.

NEW BILLED PEAK						
12-1 PM	1-2 PM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	6-7 PM
1	1	1	1	1	1	1

OLD BILLED PEAK						
12-1 PM	1-2 PM	2-3 PM	3-4 PM	4-5 PM	5-6 PM	6-7 PM
1	1	1	1	1	1	1

- There were more than 88,000 customers on the ECT-2 plan and more than 260,000 customers on the ET-2 plan who would have been similarly misled since AUGUST 2017 (online, through letters/postcards, and by APS customer service) and potentially steered to a wrong plan by assuming that the off-peak 7-8 PM high usage would continue unchanged even under the new rates.

- More expensive new plan recommendations
- Incorrect current/future annual cost estimates
- Erroneous projections of future savings/costs

As shown above, he had stated that as many as **350,000** time-of-use customers may have been harmed since August 2017 because not just the online tool the ratepayers used, but the letters/postcards they received from APS as well as the APS customer service reps recommended a more expensive plan because they *all* relied on the same faulty tool, which treated an off-peak hour as on-peak under the new rates.

For the customer in Complaint Number: 2017 – 144731, APS admittedly made "overstated projections" based on **12.6 kW** demand rather than the **4.1 kW** demand that he had been actually billed in August 2017. And yet, Energytools completely ignored documented evidence starting in August 2017. Energytools was

⁸ APS Response at: <https://docket.images.azcc.gov/E000004180.pdf>

⁹ Abhay Padgaonkar comments to the docket at: <https://docket.images.azcc.gov/E000004431.pdf>

¹⁰ Abhay Padgaonkar public comment at: <http://azcc.granicus.com/player/clip/3742?&redirect=true&entrytime=14530&autostart=1>

confronted with hard evidence and specific examples/complaints with the exact same error (treating an off-peak hour as on-peak) resulting in "overstated projections" according to APS itself and incorrect MEP recommendation. But because of its inconsistent (and possibly biased) approach, Energytools neglected to investigate the complaints, the confusion, or the chaos it created and refused to quantify the harm it had caused to potentially hundreds of thousands of customers during 2017-2018 — and instead only focused its attention on the online problems starting in February 2019, and only due to the known data shift error.

Energytools nonchalantly wrote the whole thing off prior to February 2019 and provided the following cursory and preposterous explanation. It concluded that APS should be given a pass for generating different historical bills that did not match either the actual billing determinants or the actual bills — although that discrepancy also directly led to "overstated projections" and incorrect MEP recommendations.

Similarly, the Tool's use of billing determinants that were different from those used to generate historical bills would necessarily result in different historical bills when new rates were applied. But again, this does not necessarily imply that the Initial Tool was faulty. Rather, the Initial Tool was designed to advise customers of the MEP on a going forward basis, using historical usage patterns and new rate designs.

And despite clear evidence that the tool used **12.6** kW demand rather than the **4.1** kW actual historical demand in making "overstated projections" and incorrect plan recommendations, Energytools somehow buried its head in the sand as follows: "Energytools has been unable to uncover *any* evidence that the Initial Tool was using information that was not consistent with historical data, except for the integration issues discussed above."

FATAL FLAW #3: APS KNEW ABOUT THE DATA SHIFT ERROR AND PROBLEMS OTHER THAN THE DATA SHIFT ERROR MUCH SOONER THAN WHAT IT HAS CLAIMED BUT ENERGY TOOLS FAILED TO INVESTIGATE IT

Complaint No. 2019 – 160008 and 2019 - 160009¹¹

Complaint No. **2019 – 160008**, filed with the ACC on September 14, 2019, was extremely specific and accurate in *proving* to APS the existence of the data shift error. The complainant had first reported the issue in writing to APS via an email on **July 17, 2019** and explained the discrepancies witnessed between the data on the app for peak vs. non-peak usage and what the actual usage was.

An excerpt below from the July 17th email shows that the complainant had presciently identified and precisely reported to APS in no uncertain terms that on-peak usage was being incorrectly displayed in the APS app starting at 2:00 PM instead of at 3:00 PM — a problem APS would later to admit to being the root cause behind the faulty rate comparison tool and claiming it was not aware of it until November 14, 2019.

I initially programmed it to shut off 15 minutes ahead of time, but I noticed that when I compared my daily demand on the APS app, that there was still quite a large peak of electricity usage in the green (peak usage). I experimented in 15 minute increments and I had to push it back all the way to 2:00pm to get it to drop off where the usage was no longer in the green.

After being ignored by APS and becoming frustrated about the concerns originally reported in July falling on deaf ears, the complainant persevered. She called APS again, followed up with a detailed email, and also filed Complaint No. 2019 – 160008 and 2019 – 160009 on September 14, 2019. This time, the complainant attached screenshots of the website and also the app to her email on **September 18, 2019** to APS phone rep (Marty) and also forwarded the email to the consumer advocate's email address (ConsAdv@apsc.com) and

¹¹ ACC Disclosure for Complaint No. 2019 – 160008 at 'ACC (APS 2019) 000133 – 000149' and Complaint No. 2019 – 160009 at 'ACC (APS 2019) 000150 – 000151'

"Attention: **Ms. McFall**" on September 20, 2019 in the subject line. She also sent a separate email on the same day to the same consumer advocate email address and addressed it as "Hello Ms. McFall" explaining the entire situation in detail.

APS usage was displayed the on-peak usage in green and off-peak usage in blue online — both on its website and on its app. The complainant provided and highlighted screenshots taken on June 26, 2019. These screenshots clearly demonstrated that **APS was erroneously displaying on-peak data in green starting at 2:00 PM rather than starting at 3:00 PM when the on-peak window should have begun.** The ACC complaint included these screenshots and the following notations for each of the screenshots are captured in the ACC complaint as well:

Here's what the 1st data point of 1.82 kW looks like on my end...

Here's the 2nd data point of 1.12 kW....

??So everything left of this data point should be blue and it's not.

Here's what it looks like on the app:

1st data point...

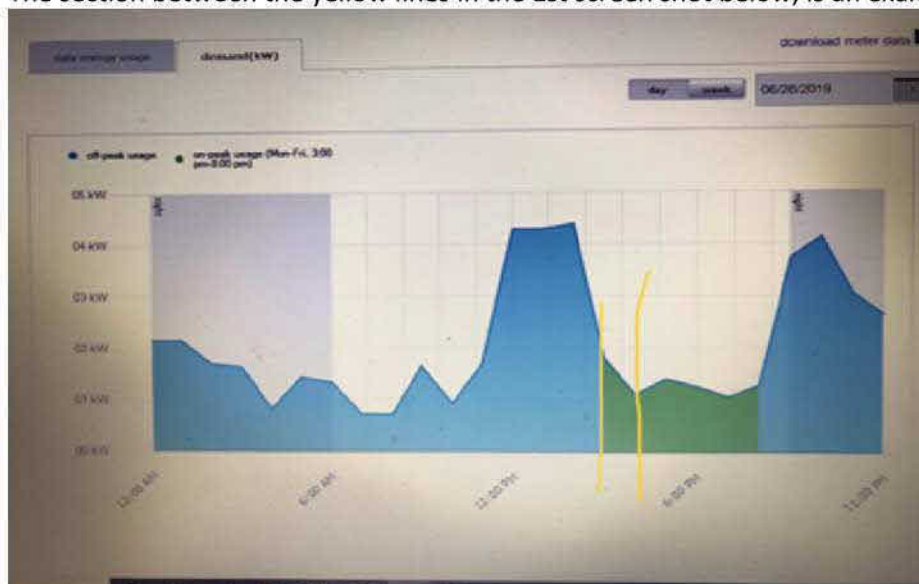
2nd data point....

Both the computer and app should look like this color wise if they were displaying the on-peak demand from 3-8pm instead of 2-8pm....

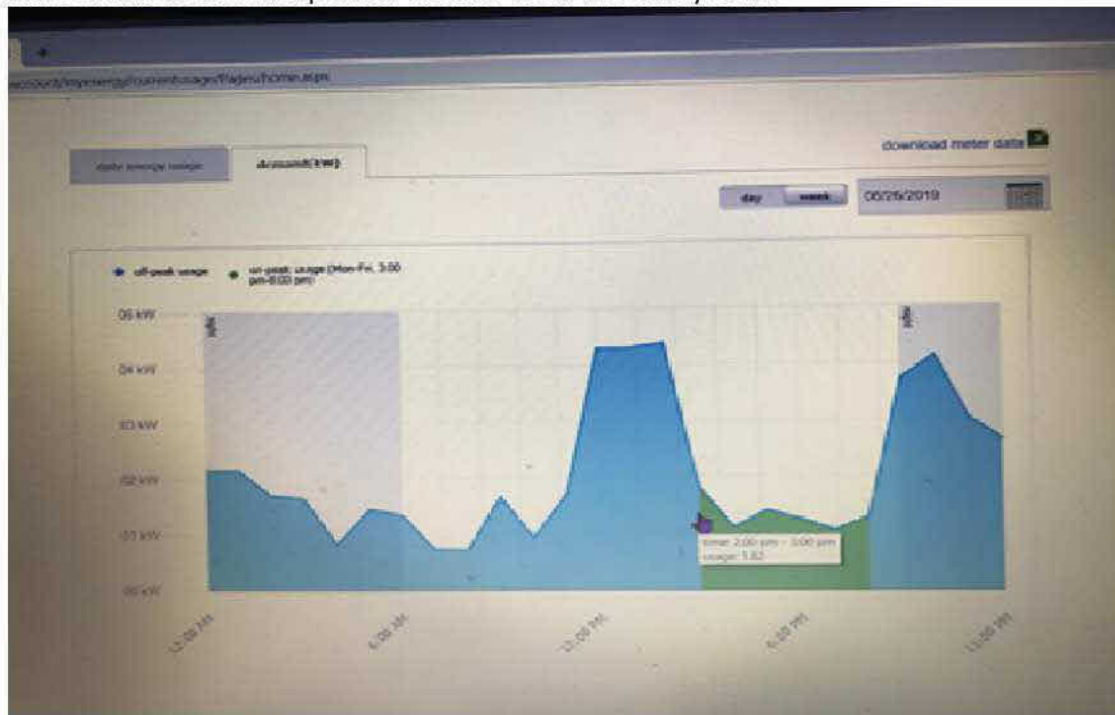
In her email and complaint, the complainant spelled out the 2:00 PM discrepancy succinctly and backed it up with several screenshots with notations and highlighting that visually proved the existence of the problem.

The section between the yellow lines in the 1st screen shot below, is an example of the area in question. The issue occurs every day from 2-3pm, on non-holiday weekdays (so the start of on-peak everyday). On 6/26/19, if you look the data point of 1.82 kW on the left and 1.12 kW on the right, the line in between them is what represents the actual hour of 2:00-3:00pm. This is what is incorrectly labeled as on-peak (green), when it still should be labeled off-peak (blue).

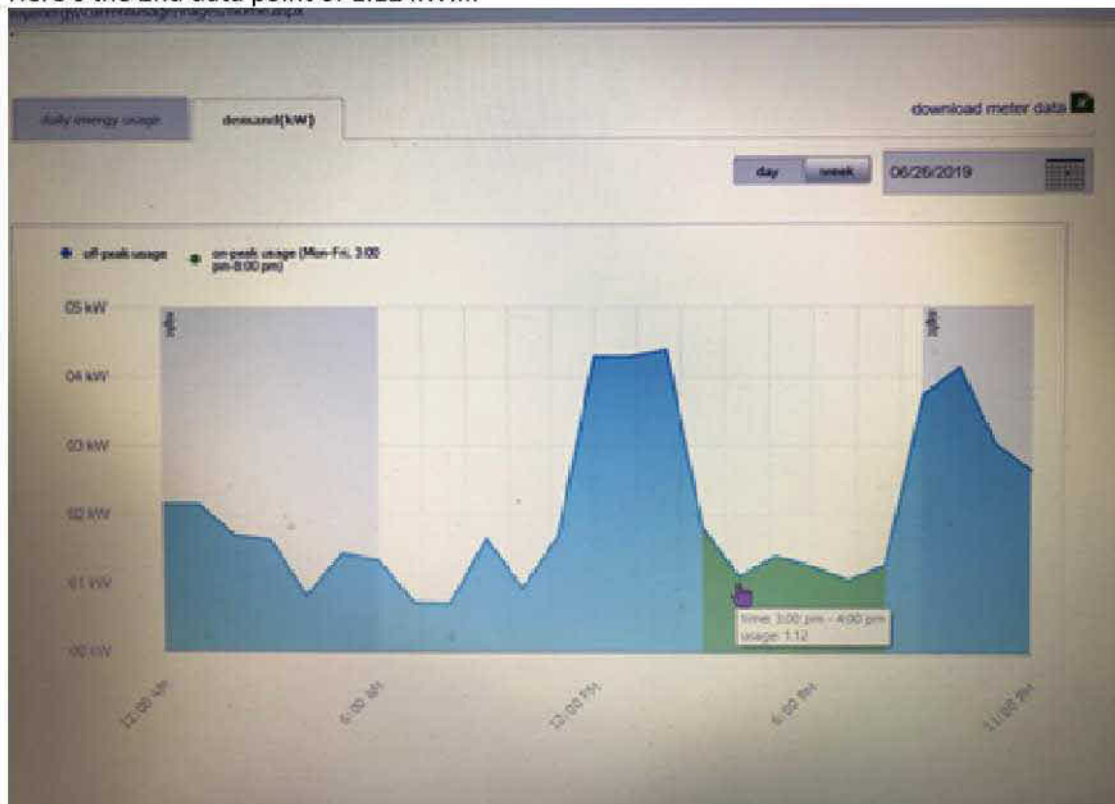
The section between the yellow lines in the 1st screen shot below, is an example of the area in question.



Here's what the 1st data point of 1.82 kW looks like on my end...



Here's the 2nd data point of 1.12 kW....



↑ So everything left of this data point should be blue and it's not.

Here's what it looks like on the app:

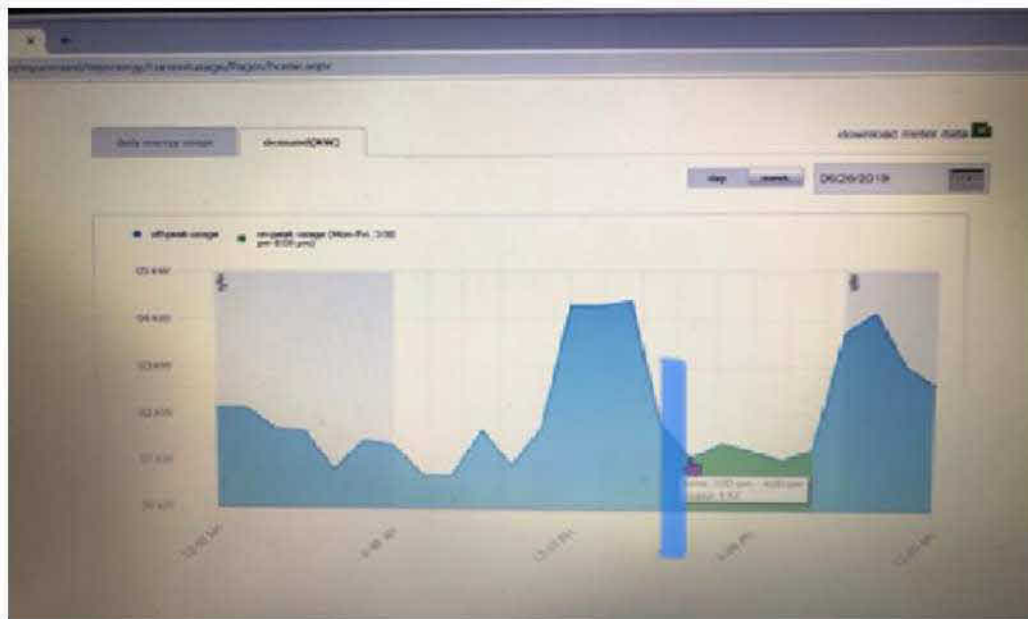
1st data point...



2nd data point....



Both the computer and app should look like this color wise if they were displaying the on-peak demand from 3-8pm instead of 2-8pm....



The complainant could not have spelled it out any better to pinpoint and highlight the very problem of the data shift error (on-peak usage being shown at 2 PM instead of at 3 PM when the on-peak window began) — something that APS later claimed was the root cause behind the defective rate comparison tool.

Despite this precise and irrefutable visual proof that even a 3rd grader would understand, Elizabeth McFall, a Senior Consumer Advocate at APS, shockingly wrote it off by falsely claiming that energy usage, including demand, is accurately displayed on the APS website and blamed the complainant for her misunderstanding. This is part of the update Ms. McFall provided to the ACC:

I have investigated Ms. <<< REDACTED >>>'s concerns and found that the energy usage, including demand, is accurately displayed on the APS website. I applaud Mr. and Ms. <<< REDACTED >>> as they manage their on-peak energy extremely well. During the summer months, they routinely keep their daily demand below 2 kW. However, on occasion their peak demand increases beyond 3 kW. This occurred in April, May and again on Wednesday, 09/11/2019, during the 7:00pm to 8:00pm hour. Ms. <<< REDACTED >>> is aware of her recent peak demand of 3.5 kW that occurred on 09/11/2019 as she views her usage on the APS website/mobile app. This peak demand isn't a matter of being incorrect but rather a misunderstanding in Ms. <<< REDACTED >>> not realizing her home consumed this demand. I will be happy to discuss this with her once she contacts me.

The same complainant also simultaneously filed another complaint no. **2019 - 160009** which went to a different commission investigator. The questions the ACC investigator asked APS were as follows:

What is the company's response to being charged on peak pricing one hour before on peak hours begin?

What daily data information can be provided to the customer for consumption clarification?

Please provide a written response to the Commission once customer has been contacted.

There was no documented follow-up to the question as to why on-peak was showing one hour before on-peak hours began.

Frustrated, the complainant contacted all the Commissioners on November 22, 2019 via email and stated the following, in part, informing that "APS changed it when I caught them," meaning that APS was not only aware of the problem the complainant pinpointed, but that APS had taken action to fix the problem the complainant had identified long before November 14, 2019 that it claimed falsely is when it became aware of the issue. Not surprisingly, there was no follow-up from any commissioner.

In the last communication we had, I stated I had my evidence ready whenever the Corporation Commission was ready to meet and review it. That was on Oct. 4th and I have heard no response since. I am a retired Deputy Fire Marshal and Senior Fire Inspector. I handled public complaint investigations often as a primary job duty. I would never handle a complaint the way this one has been handled, especially an out of the ordinary issue like this. This isn't some minor billing dispute issue.

The problem in question is with the APS customer's on peak energy demand data. It was supposed to be displayed as 3-8pm on non-holiday weekdays and it wasn't. It was being displayed on APS's website and app from 2-8pm. APS changed it when I caught them - that was what that big update to their system about month or two ago was for. However, I still have screen shots of my old data showing what they did, plus the email to APS showing a sample of the incorrect data is included here at the bottom of this email.

Whether the issue was restricted to online usage display or if it affected APS billing is not clear and needs further investigation. Regardless, it irrefutably shows APS's knowledge of the data-shift error between July-September 2019.

Complaint No. 2019 – 160128¹²

Energytools claimed to have reviewed "all documents in all dockets," but there was no mention of comments filed in Docket No. E-01345A19-0003 by Stacey Champion¹³ on November 20, 2019 or comments filed by Abhay Padgaonkar¹⁴ on January 14, 2020 — despite the RFP requirement of "consideration to filed public comments."

These filed public comments had collectively provided evidence that: a) the online tool was using incorrect usage parameters; b) the differences were fairly large; and c) the discrepancies in usage parameters could not be explained by the peak hour shift error alone.

¹² ACC Disclosure for Complaint No. 2019 – 160128 at 'ACC (APS 2019) 000157 – 000165'

¹³ Stacey Champion comments to the docket starting at: <https://docket.images.azcc.gov/E000003747.pdf#page=19>

¹⁴ Abhay Padgaonkar comments to the docket at: <https://docket.images.azcc.gov/E000004431.pdf#page=12>

Ms. Champion's communications with APS in Sep-Oct 2019

- On September 27, 2019, Elizabeth McFall at APS provided Ms. Champion with a table with "the parameters used by **APS's third party vendor** to calculate the cost difference between rate plans. These parameters were obtained by the interval data collected from the meter providing service to your residence."
- On September 28, 2019, Ms. Champion wrote back to Ms. McFall that **"when I compare the usage parameters you have sent below with the actual bills, they don't match."** Ms. Champion provided a specific example for the month of December 2018 for which ALL the usage parameters the third-party vendor had used based on the interval data were wrong and did not even come close to matching the actual billing data as follows:

Billing Days = 29 (matches)
Total KWH = 557 (you show 450)
On-Peak KWH = 42 (you show 36)
Super-Off-Peak = 30 (you show 25)
Off-Peak KWH = 485 (excluding super-off-peak as shown on the bill, you show 389)
Demand KW = 1.5 (not on the bill -- based on my download of hourly data, but you show 1.2)

- Ms. Champion challenged APS by asking in the same email whether anyone had compared "the usage you sent against the actual monthly bills" and **"If, in fact, there is a wide discrepancy in usage in the rate comparison vs. actual monthly bills, why should I (or anyone else) believe the results of the rate comparison?"**
- On October 7, 2019, Ms. McFall replied to Ms. Champion stating the following in part:

The energy usage parameters used by APS's third-party vendor to perform rate plan comparisons are based on available interval data collected from the meter at the customer premises listed on the account. **Because interval data is used and not billed energy data, there can be slight variations between the two.** The rate plan comparisons calculated by our third-party vendor provide customers accurate representations of customers most economical rate plans based on the available data.

In an effort to assist you and answer the second question in your email below, **APS internally performed a manual rate plan comparison based on your billed energy data from July 2018 through September 2019.** This comparison confirmed that the Saver Choice Max rate plan is your most economical rate. The table below illustrates the monthly breakdown of your billed energy data and compares your current rate plan, Saver Choice, to the other available rate plans. The foregoing is consistent with the communications we have provided to you on this topic since March 2018 as the Saver Choice Max rate plan continues to be your best rate plan.

- In the new table Ms. McFall sent after APS internally performed a manual rate comparison, miraculously, ALL the usage parameters APS had used based on the billed data were correct. Ms. Champion replied the same day by asking "why the interval data collected from the meter is not the basis for the billed energy data?"
- After saying that "APS is in the process of gathering this additional information from our third party vendor," Ms. McFall replied that **"By the end of the year, APS will perform rate plan comparisons internally and they will be calculated based on billed data."** That was as clear an admission by APS that the rate plan comparisons based on interval data were creating erratic and unreliable results and all the problems will be fixed by the internal tool under development.

- However, according to the ACC complaint, the update Ms. McFall provided to the ACC on **October 3** — prior to the October 7 email she sent Ms. Champion — is equally important.

Date:	Analyst:	Submitted By:	Type:
10/4/2019	Al Amezua	Telephone	Investigation
10/3/2019 Voice mail message from Beth at APS			
<p>Hey Al.</p> <p>its Beth I just wanted to touch bases with you in regards to the <<< REDACTED >>> complaint no. 160128 I have been email correspondence with her so outreach to her has been taking place. We are going to need a bit more time to get the response over to you just need to make sure that its review by all the right parties before I sent that over hoping that will be tomorrow if not the beginning of next week. I just wanted to touch basis with you so you know where we are at. With that if you have any questions feel free to give me a call. 3:51 PM on 10/3/2019</p>			

Ms. McFall had made sure that what she sent Ms. Champion was **reviewed by all the right parties before Ms. McFall sent it over**. It proves that what Barbara Lockwood and Daniel Froetscher have maintained that the issue wasn't escalated and that it was a "missed opportunity" is simply false.

Unanswered Question: Who is "APS" or "We"?

Who exactly is "APS" or "we"?

Dear Commissioner Margaret Peterson,

"Thank you for your December 18, 2019 letter. On November 14, 2019, APS learned that there were issues with its Rate Comparison Tool. APS immediately took the tool down.

In addition to the 12 customer inquiries attached to your letter, we have independently started our records and identified 17 customers (Attachment A) who were referred by ACC Consumer Services to APS's Consumer Advocate's office between August 18, 2017 (when new rates were approved) and November 14, 2019 (the date on which we became aware of the issues with the tool). These complaints, as well as those included in your letter, fall into the following categories:

- Does every employee at APS need to know? Who counts as "we"? Who in "management" exactly? Daniel Froetscher? Jeff Guldner? How does one decide when "APS" learned something?
- Is **Elizabeth McFall**, a Sr. Consumer Advocate, who has answered many consumer complaints made to the ACC since the rate increase, has made statements to the media about the rate increase and about savings by switching over to a new rate plan, and had spoken with Pullman's daughter regarding the billing issues, **NOT** considered "APS"? Who did she speak with about this at APS?

Clearly, APS knew and has lied about it when it found out about the problem. Mr. Padgaonkar had already raised serious question about APS's self-proclaimed lack of knowledge at the January 2020 Open Meeting as shown. But this new revelation provides clear evidence of APS's knowledge in early October among "all the right parties." Part of APS's motive in replacing the GridX tool appears to be the havoc the interval data was

creating by not matching with billed data. And yet, Energytools simply accepted at face value APS's self-declaration: "Because of the pro forma billing requirement, the Company decided to develop a new tool."

However, Decision No. 77270 requiring pro forma billing was signed off only on June 27, 2019. It is highly improbable that the development of the new, internal rate comparison tool would have begun after that date and *because of Decision No. 77270*. It is impossible for it to have been ready to go into production in a matter of months on November 17, 2019. Without any information in the Energytools Report whatsoever about the tool's detailed progression and timeline or the GridX and Brattle involvement, it is impossible to determine the veracity of APS's claim.

In his filing and public comment in January 2020, Mr. Padgaonkar also raised these very questions about the mismatch between the interval data and billed data. He had emphasized the finding as follows: a) the online tool was using incorrect usage parameters; b) the differences were fairly large; and c) the discrepancies could **not** be explained by the peak hour shift error alone.

Unanswered Question: Interval Data vs. Billed Data in McFall Email

APS's third party vendor uses interval data to perform rate plan comparisons because prior to the current time-of-use rate plans which all have on-peak hours of 3pm to 6pm Monday through Friday, there were various time-of-use rate plans with different on-peak hours.

By the end of the year, APS will perform rate plan comparisons internally and they will be calculated based on billed data. The rate plan comparison tool available on the APS website will reflect this change.

The "interval data" explanation above from Ms. McFall is bogus:

- The "different on-peak hours" (namely, 12-7 PM or 9 AM-9 PM depending on the plan) ended way back in August 2017 and all the customers were transitioned to the New Rates (3-8 PM on-peak) as of May 1, 2018 — which was 18 months prior. So, this explanation by APS in October 2019 for using interval data makes zero sense.
- Clearly, APS knew very well that rate comparison based on interval data did not match the billed data. The fact that APS was planning to perform rate plan comparisons "internally" based on "billed" data (without the third-party vendor or using interval data) speaks volumes about APS's contemporaneous knowledge about the issues and discrepancies related to the Rate Comparison tool.

Unanswered Question: Missed Opportunities, Really?

I had thought that the rate comparison would be based on my actual monthly usage that would then match my actual bills (except for demand kWh that would be in the hourly usage). Please let me know if you maintain this when I compare the usage parameters you have sent below with the actual bills, they don't match. And these are also missing items I will just give one month as an example:

This is what you provided for December 2019 usage:

imagined@aps:

When I compare it to my actual December 2019 bill below, I find the following:

Billable Days = 28 (correct)

Total kWh = 352 (you show 432)

On-Peak kWh = 42 (you show 36)

Super On-Peak kWh = 33 (you show 25)

Off-Peak kWh = 485 (you show 400)

Demand kWh = 1.5 (not on the bill - based on my download of hourly data, but you show 1.3)

- On September 28, 2019, Ms. Champion had very specifically provided APS with examples about the severity of the discrepancies in the Rate Comparison data that they were neither "slight variations" nor explained by the peak hour shift error (e.g., Total KWH).

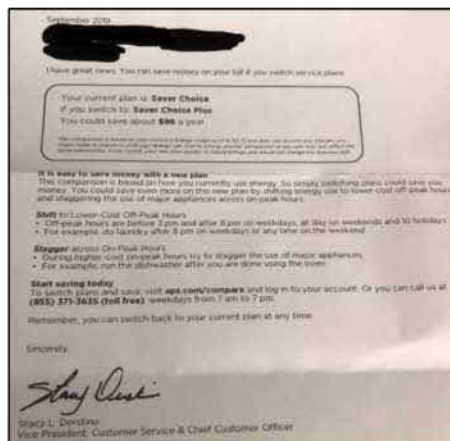
His public comments clearly pointed to issues that could not be explained by the shifted hourly data error alone. For example, how could **Total kWh** for a given month be off by **24%** because of the one-hour data shift error? That evidence pointed to other major potential issues with the interval data itself, or with the aggregation of interval data to match the billing data, or some other computational error or data problem, which made the usage parameters to be far different than the billed actual usage.

And yet, Energytools failed to investigate this evidence altogether. And despite evidence to the contrary, Energytools simply accepted as gospel APS's "acknowledged" position at face value — namely that "shifted hourly data" was the only error.

To add insult to injury, Energytools declared that "Energytools could find no evidence to *suggest* that the Initial Tool was not providing accurate rate comparison information at that time." And despite clear evidence of information that was *not* consistent with historical data, Energytools ignored all of it and declared this: "Energytools has been unable to uncover *any* evidence that the Initial Tool was using information that was *not consistent with historical data*, except for the integration issues discussed above." And the Energytools Report completely failed to investigate the timeline of APS's knowledge of the data shift and other issues.

The evidence above provides clear proof of APS's knowledge of the data shift error and flawed rate comparison tool between July-September 2019 and a "review by all the right parties" in early October 2019 – in complete contradiction to APS's self-professed claim of being clueless until November 14, 2019. It is plainly obvious that APS has misled the Commission, the media, the investors, and the ratepayers when it claimed that it became aware on November 14, 2019.

FATAL FLAW #4: ENERGYTOOLS IGNORED INCORRECT PLAN CHANGES MADE BY APS CUSTOMER SVC REPS



Not just in 2017-2018, but APS also sent out probably hundreds of thousands of "Best Rate" letters pursuant to Decision No. 77270¹⁵ during the problematic February-November 2019 period.

- The decision had ordered APS to identify ratepayers whose bills had increased by more than 9% under the new rate plans and those ratepayers who were *not* on their most economical plans.
- The order also required APS to provide comparative usage data for their current plan and their most economical plan and the opportunity to switch plans.
- A letter sent by APS in September 2019 is shown here. The letter asks customers to visit the APS website or call APS at (855) 371-3635 to "switch plans."

In that same month, the Arizona Republic reported the following based on Ms. Champion's call to APS on September 12, 2019 upon receiving a letter to talk to a customer-service representative about the estimate of her savings from switching plans.

*The customer service representative who took the call did not understand demand rates or how they affected a bill, and she provided monthly cost estimates that were off by \$100 or more. "That is wrong information," Champion says on the recording. "If that is what you are telling people, you are giving people wrong information because that's not how demand charges work."*¹⁶

¹⁵ ACC Decision No. 77270 at: <https://docket.images.azcc.gov/0000198805.pdf>

¹⁶ "APS employee gave bad information to a customer, and now regulators are raising questions" at: <https://www.azcentral.com/story/money/business/energy/2019/09/30/aps-customer-service-wrong-information-demand-rates-plan/3780497002/>

The Energytools Report acknowledged that "if a customer called the Company to inquire about alternative rate plans, the APS Customer Service Representative ('CSR') accessed the tool to assist customers in determining the bill impact resulting from choosing service under alternative rates." But when it came to quantifying the harm done to the customers, Energytools punted. It based its analysis **only** on "the number of ratepayers who, after accessing the Initial Tool, did not ultimately go on the most economical plan (MEP) based solely on historical usage data...".

The approach by Energytools to restrict its own analysis to the "Initial Tool log," and thereby only to customers who changed their own plan online, completely overlooked the fact that many other customers received wrong advice from and switched to incorrect, suboptimal plans by talking to an APS Customer Service Representative — as Ms. Champion attempted to do.

The Energytools Report has failed to independently validate APS's self-serving representations, as it was required to do. As a result, the Energytools Report's conclusion that "the Company has adequately compensated customers who changed rate classes for any potential bill impacts associated with the Initial Tool error" represents alternate reality and has no rational basis in reality whatsoever.

FATAL FLAW #5: ENERGYTOOLS FAILED TO ACCOUNT FOR FULL IMPACT DUE TO FLAWED ASSUMPTIONS

In its methodology to assess damages due to incorrect MEP recommendations, Energytools simply assumed the following:

The impact calculations do not include any kWh adjustments, since these shifts are negligible compared to the bill shifts from the kW impact that occurred.

Energytools went on to explain its decision in footnote #69 as follows: "The kWh would only be different by kWh hourly differences on the margin (either midnight hours when the weekday/weekend changes), or a maximum of 13 cents per kwh for R-TOU-E during on-peak vs. off-peak hours, which have a minuscule impact compared to \$8.40/kW and \$17.44/kW for hourly kWh shifts on the ordering of the totals under each rate class on an annual basis."

However, there is a major flaw in the "minuscule impact" logic. Take the example of a customer on the R-TOU-E plan for whom a high-usage 2-3 PM off-peak hour is erroneously counted as an on-peak hour each Monday-Friday workday. Assuming a conservative 6-kWh shift from off-peak to on-peak, the annual impact of the kWh adjustment because of the shifted hour on that customer would be significant as follows:

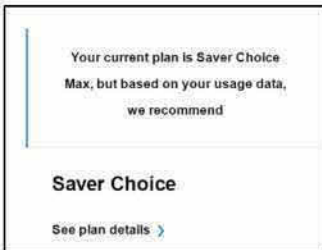
Annual Impact

6 kWh weekday shift from off-peak to on-peak * 22 weekdays per month * 12 months * \$0.13 difference between on-peak vs. off-peak rates for R-TOU-E plan * 11.44% taxes and fees = **\$229.47**

So, a flawed assumption by Energytools led to its failure to account for significant harm to the customers.

But there is more. Energytools made another flawed assumption as follows: "This shift primarily affected the ranking of the R-2 and R-3 rate classes vis-a-vis the other rate classes, as they have a demand component based on the peak kW that happens during the 3pm to 8pm timeframe."

However, even plans without a demand component were impacted or recommended as a result of the erroneous off-peak kWh to on-peak kWh shift. As Mr. Padgaonkar demonstrated in his filing that exposed the faulty rate comparison tool,¹⁷ as shown here, even a TOU plan (**Saver Choice**) *without* a demand component was incorrectly being recommended as the Most Economical Plan. In short, the one-hour data shift affected more than just the ranking of the R-2 and R-3 plans, as Energytools erroneously assumed. Further, it is highly likely that not just the TOU plans, but flat rate plans like Lite Choice and Premier Choice would have been in the mix as well.



And yet, Energytools provided no analysis to support its flawed assumptions before writing off the broader possibilities. As a result of its flawed assumptions, Energytools failed to take into account the total impact of even the shifted hourly data error.

FATAL FLAW #6: ENERGYTOOLS COMPLETELY MISSED THE IMPACT ON NO-RESIDENTIAL, BUSINESS CUSTOMERS

While the RFP required Energytools to complete an independent determination of the number of ratepayers, the RFP did not stipulate that Energytools analyze only residential customers. In fact, the words 'residential' or 'non-residential' are nowhere to be found in the RFP.

And yet, Energytools limited its investigation and analysis to only residential customers despite ample evidence that shifted hourly data error, incorrect billing determinants, and consequently wrong MEP recommendation would have affected non-residential, business customers as well. And yet, the word 'non-residential' is nowhere to be found in the Energytools Report despite the following facts and evidence:

Non-residential customers accessed the "calculator" for rate comparison purposes on the APS website

As Complaint Number: **2019 – 158753**¹⁸ filed on June 13, 2019 by an HOA, a non-residential customer, shows that even non-residential customers used the "calculator" and relied on the "rate comparison generated off the APS website" to compare plans as the excerpt from this complaint shows:

We would expect that they would move us to the plan that should be the most cost effective based upon our usage profile. As we learned last week, they actually moved as to the plan that was the most expensive to us. I have attached a rate comparison generated off the APS website for our account using our actual plan compared to the other two options. See Exhibit B. The data for 2018 is not valid as this calculator uses a rate plan that is not reflective of what we actually had been on. But the 2019 data is accurate. For the first 5 months of the year, had we been on the XS GS plan our bills would have been \$6,764.02 less. According to Scott in their business group, he indicated that he had never seen an account where the difference was so large between these three XS rate plans.

¹⁷ Abhay Padgaonkar filing exposing the faulty rate comparison tool at: <https://docket.images.azcc.gov/E000003679.pdf#page=4>

¹⁸ ACC Disclosure for Complaint No. 2019 – 158753 at 'ACC (APS 2019) 000018 – 000024'

The tool APS used to automatically move customers to a different plan selected the most expensive plan
APS automatically moved this customer to a new rate plan without notification to the most expensive plan. More importantly, out of the three plans the complainant could have qualified for, APS moved them to the most expensive plan as documented in the complaint below:

To summarize this second basis for our complaint, APS, without notification, moved us to a new rate plan in 2019. Based upon our usage profile, there were three options and they apparently ignored our usage data and put us on the most expensive plan. Or possibly they intentionally selected the plan that is best for them. I requested relief due to their actions for 2019 but they refused. On June 7 they did switch our plan to the XS GS plan with an effective date of May 28. They stated we were eligible for a plan change as we had been on the current plan for six months.

Many non-residential plans also have the same 3-8 PM on-peak window

Many non-residential, business plans also have a time-of-use component with on-peak hours of 3:00 pm – 8:00 pm Monday through Friday.¹⁹ With that in mind, the hour-shift error would have negatively impacted — not just the residential customers — but many non-residential customers as well.

Being on the wrong plan is extremely expensive for non-residential customers too

As the complainant stated by being on the wrong plan, their bills were **\$6,764.02** higher for five months. How did APS resolve this complaint? APS bought them off. APS initially credited them exactly the same amount the Complainant demanded as financial relief as can be seen below:

* 6/28/2019 - I contacted Mr. <<< REDACTED >>>, I informed him I had completed my review of the HOA account. I advised him that the HOA account had transitioned in 1/2019 from E-32, Small General Service TOU to E-32, XS General Service TOU due to their usage pattern. Their usage was reflecting on peak usage of less than 20 kW. Therefore, APS transitioned their account to E-32, XS TOU as this was the "most like rate" plan. However, in the spirit of customer service I informed him that APS was going to credit their account in the amount of \$6,764.02 which is the difference had the HOA been on the E-32, XS General Service. I informed him that the HOA would no longer have TOU as part of their rate since this was the most economical rate based on the HOA's usage. Additionally, I advised

Later, because of the timing of the rate change, the bill was still produced on the wrong plan, and APS credited another \$1,795.65 for a total of **\$8,559.67**. So the annualized penalty for this single business customer as a result of being placed on the wrong plan by APS was more than \$17,000.

Al, I have attached a copy of the July monthly bill. The policy adjustment reflects \$8,559.67 which is the following:
 $\$6,764.02 + \$1,795.65 = \$8,559.67$.

"WE WON'T SEE THE FULL TRUTH." ACC STAFF VIOLATED PROCUREMENT CODE IN "SELECTING" SOLE-SOURCED ENERGYTOOLS, LLC

- "On December 11, 2019 during the Arizona Corporation Commission Open Meeting discussion, the Commissioners asked ACC Staff to compile an RFP to review the issues surrounding the Rate Comparison Tool," as confirmed in an email dated January 13, 2020 from Ranelle Paladino to APS.²⁰
- And yet, on December 18, 2019, Jim Armstrong asked: "Are we going RFP? I thought we were just reaching out to the one consultant at this point?" Inexplicably, the Utilities Division Staff corresponded with Paul Raab at Energytools within a week of the December meeting to sole-source the contract and **continued discussing the matter with Mr. Raab for nearly a month until the RFP was finally issued, thereby violating Arizona's Procurement Code on the Attorney General's website.**²¹

¹⁹ APS Business Plans at: <https://www.aps.com/en/Business/Service-Plans/Compare-Service-Plans>

²⁰ Stacey Champion's April 14, 2020 filing on ACC Staff's procurement violations at: <https://docket.images.azcc.gov/E000005910.pdf>

²¹ Arizona Attorney General Procurement Handbook at: https://www.azag.gov/sites/default/files/docs/agency-handbook/2018/agency_handbook_chapter_5.pdf

- Mr. Raab was also instructed to tune into future open meetings, had phone calls with ACC Staff, was kept advised, and was also sent documents to review.
- Jim Armstrong personally and specifically made Mr. Raab aware of the RFP after it was issued although Mr. Raab was *already* on the mass email distribution list. However, ACC Staff failed to docket the RFP for the public to see and the RFP is nowhere to be found now. All RFPs should stay available to the public on the ACC website for transparency reasons.
- See Laurie Woodall's email below referencing Comm. Kennedy's letter "stating a timeline regarding problems since from 2017" and questioning the "February 2019" timeline Jim Armstrong and Ranelle Paladino presumably gave her.

From: [Laurie A. Woodall](#)
 To: [James Armstrong](#); [Ranelle Paladino](#)
 Subject: RE: APS rate comparison tool RFP
 Date: Tuesday, January 14, 2020 3:53:20 PM
 Attachments: [image001.png](#)
[image003.png](#)
[image004.png](#)

February 2019 through January 30, 2020?

But see: Commissioner Kennedy's December 13, 2019 letter stating a timeline regarding problems since from 2017 <http://docket.images.azcc.gov/E000004091.pdf?i=1579042138178>

- Nevertheless, ACC Staff ended up manipulating the timeline of the investigation despite knowing full well that problems with the tool's accuracy were reported to the Commission in 2017.
- ACC Staff also limited the scope of the investigation to minimize expense to APS, and created a "review team" to give the appearance of an unbiased selection process.
- Energy Tools, LLC — the firm that ACC Staff had openly guided for a month prior to the issuance of the RFP as if they were going to receive the sole-source contract — was "selected" *despite* having the smallest team (two people) and *despite* their bid being more than double that of Silverpoint Consulting's bid who had the strongest customer-centric proposal.
- In her April 2020 filing, Ms. Champion had expressed serious concern about ACC Staff manipulating the tool's timeline and not going back to 2017. She had presciently warned that because of the way in which the RFP was written "**we won't see the full truth.**"

On January 14, 2020, ACC staff is still working to hammer out the details surrounding the timeline, even though several Commissioners have already stated they need to understand what happened prior to February 2019. **Remember, the tool was implemented with the 2017 rate hike and there are countless complaints about the tool that ACC staff have seen also going back to 2017. This cannot be overstated enough!**

I am also still very concerned that **because of the way in which the RFP was written, we won't see the full truth.** Your Utilities Division Director had final eyes on the RFP on January 15, 2020.

ENERGYTOOLS FAILED THE MOST BASIC REQUIREMENT OF SOFTWARE EVALUATION

The RFP required Energytools to conduct the following: An independent review of APS' development and testing of the initial Tool to determine if APS should have reasonably identified flaws in the Tool or in its testing of the Tool prior to roll-out.

The Overland Report had stated that "the comparison tool has evolved since it was first introduced in **2016.**" Energytools referred to the "Initial Tool" as the "GridX Tool" in its report and called the GridX rate comparison tool the "primary calculation engine" as of August 19, 2017.

- It is unthinkable that the development, testing, and implementation process did not involve voluminous documentation that APS would still retain, including the master contract, amendments, development and testing schedule, and fees — not to mention what versions were released when and why.
- It is equally unthinkable that APS or GridX developers did not go through multiple versions of the software or that APS or GridX did not use version control system to manage changes. (Version control systems are a category of software tools that help a software development team manage changes to the source code and keep track of every modification to see what changes were made, when, and why they were made.²²)
- However, Energytools, specifically retained to conduct "an independent investigation of APS's development, implementation and post-completion assessment of an online Rate Comparison Tool," **reported zero information** on any of the following: When was the rate comparison tool first launched? (In **Sep. 2017**, California PUC ordered utilities to develop scripts similar to those used by APS to help customers choose the right rate.²³) Who designed the online tool? Who developed the online tool(s)? Which version of the tool was in effect and over what periods of time? What did various software versions represent and why? What software bugs were identified and fixed along the way? When was GridX retained by APS for the rate comparison tool project? (GridX reported as of **February 28, 2018** that APS was a client.²⁴)
- Similarly, when exactly did APS engage Brattle and for what purpose during 2017-2019? When did these engagements with Brattle begin and end and what was the scope of those engagements? Specifically, was Brattle already engaged to work on the New Tool at the time of the faulty rate comparison tool story broke on November 14, 2019 and, if so, when? What did Brattle know and when did it know about the various defects in the rate comparison tool, including but not limited to the data-shift error and interval data? When was the development of the New Tool commissioned prior to November 14, 2019 and did Brattle have a role to play in it? Which other vendors other than GridX and Brattle worked on the rate comparison tools? There is zero information in the Energytools Report.
- It is not clear whether Energytools didn't bother asking these basic questions or whether APS refused to provide this basic information, which, if true, should have been reported. Simply hiding behind confidentiality or using the fact that "APS no longer contracts for the use of the GridX model" or with Brattle are not good enough excuses, especially when APS told the media²⁵ this in 2019: "While GridX was not involved with the new tool, APS officials want to talk with that vendor to ensure whatever caused the problem on their tool is not present in the new tool." In short, for important matters, APS contacted GridX long *after* the contract had ended.
- Energytools has failed the most basic requirement of software evaluation and post-completion assessment, especially when after reading its report, it's impossible to make sense of the most basic facts about the rate comparison tool's progression and timeline since August 2017. It is equally impossible to know GridX's and Brattle's detailed involvement in terms of who, what, when, where, and how.

APS MUST BE SANCTIONED IF IT FAILS TO PRODUCE PROPER ACCOUNTS AND RECORDS

Energytools has generously stated that it "found deficiencies" in APS's logging of customer's interactions with the Tool. The reality is that APS retained such minimal information only about who accessed the tool and when that it was worthless. Detailed web log was virtually non-existent and without a detailed web log, it is

²² "What is version control" at: <https://www.atlassian.com/git/tutorials/what-is-version-control>

²³ CPUC Decision No. Decision 17-09-036 at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M196/K377/196377246.PDF>

²⁴ Clean Power Alliance Board of Directors meeting minutes at: https://cleanpoweralliance.org/wp-content/uploads/2018/10/040518_CPA-Board-AgendaPacket.pdf

²⁵ "APS online rate tool designed to save customers money shut down" at: <https://www.azcentral.com/story/money/business/energy/2019/11/15/aps-bill-comparison-tool-shut-down-may-cost-customers-hundreds-more/4195464002/>

impossible for anyone, including for APS or Energytools, to tell what correct/incorrect MEP information each user was presented with, or what correct/misleading rate change decisions the user or the APS CSR made as a result of the faulty tool and when.

This major deficiency has reduced the quantification of customer damages to a guessing game and a three-ring circus, as can be seen from the Energytools Report — so much so that Energytools has confessed that "it is impossible now to unequivocally confirm" its own findings because there is no record of the results.

resulted from this error. However, because of a lack of web log information, it is impossible now to unequivocally confirm these findings, primarily because there is no record of the results that the Initial Tool produced, nor of the recommendations it made. Energytools recommends that, in the future, APS

In short, APS has managed to wipe the slate clean by claiming that it does not have any web logs related to the web tool, despite the Gridx information being shown under the aps.com website. This is unacceptable and makes a mockery of the so-called investigation. All modern software applications keep a log of what's going on: events, transactions, errors, usage statistics, performance metrics, network traffic, security issues, and much more.²⁶ Analysis of logging information is often the only way of finding out what is wrong with a system or application.

Knowing this would happen, in his letter to the Commission, Mr. Padgaonkar had warned the Commission that "APS should be asked to preserve all the historical billing data, most economical plan information, and estimated savings amounts it has provided to customers through various channels." And yet, according to Energytools, "APS has *claimed* that it does not have any web logs related to the web tool, despite the GridX information being shown under the aps.com website." Energytools either didn't bother asking for CSR logs or APS didn't provide them.

After all, the purpose of Docket No. E-01345A-19-0003 has been rate review and **"examination of the books and records of Arizona Public Service."**²⁷ And the fact is that APS has failed to produce detailed books and records necessary for the examination.

The Commission must subpoena APS for the web logs, and all the internal/external communications related to the software development and assessment projects, and sanction APS if it fails to produce the detailed books and records as to its operations with regard to the Rate Comparison Tool — deemed to be "the most important" component of APS's Customer Education and Outreach Program and a major factor behind the approval of the 2017 Rate Increase.

Despite solid evidence for years, it would appear that once again APS will get away with their gaslighting and shenanigans. This is wrong!

²⁶ Intro to log management at: <https://www.loggly.com/intro-to-log-management/>

²⁷ Docket No. E-01345A-19-0003 at: <https://edocket.azcc.gov/Docket/DocketDetailSearch?docketId=22056#docket-detail-container1>